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| **Week of November 1 Lesson Plans** |
|  | **Monday, November 1** | **Tuesday, November 2** | **Wednesday, November 3** | **Thursday, November 4** | **Friday, November 5** |
| **GLETS** | **Standard:**  4.1.a Describe and apply the properties of similar and congruent figures  6.1.a Use ratios, proportions, and percents in problem solving situations that involve rational numbers  2.5.c Interpret algebraic equations and inequalities geometrically and describe geometric relationships algebraically.  **GLET:**  Use properties of triangles to find similarity shortcuts of triangles  Understand what aspects must be true for two polygons to be similar  Find the ratio/proportion between two similar figures   * + Describe geometric relationships algebraically.   **Objective:**  (Define similarity. Determine if polygons are similar by setting up proportions/finding the ratio)  **\*\*\*\*\*\*all sections included come from prentice hall text** | **Standard:**  6.1.a Use ratios, proportions, and percents in problem solving situations that involve rational numbers  2.5.c Interpret algebraic equations and inequalities geometrically and describe geometric relationships algebraically.  **GLET:**  Use proportions to find missing side dimensions of similar figures   * + Describe geometric relationships algebraically.   **Objective:**  (Using polygon similarity, solve for missing sides) | **Standard:**  6.1.a Use ratios, proportions, and percents in problem solving situations that involve rational numbers  4.1.a Describe and apply the properties of similar and congruent figures  1.3.a Use number sense to estimate and justify the reasonableness of solutions to problems involving real numbers  2.5.c Interpret algebraic equations and inequalities geometrically and describe geometric relationships algebraically.  **GLET:**  Use proportions to find missing side dimensions of similar figures  Use triangle similarity shortcuts to solve real-world problem including indirect measurement.  Applies estimation skills to justify reasonableness of a solution in a real world situation   * + Describe geometric relationships algebraically.   **Objective:**  (similarity in real world & include estimation) | **Standard:**  6.1.a Use ratios, proportions, and percents in problem solving situations that involve rational numbers  **GLET:**  Use proportions to find missing side dimensions of similar figures  Find the ratio/proportion between two similar figures  Use a ratio/proportion to construct a similar figure  **Objective:**  (funky proportions ie. Superimposed polygons, polygons sharing sides 7.2ish) | **Standard:**  5.1.d Describe how changing the measure of one attribute of a geometric figure affects other measurements.   * Angle measure * Perimeter * Circumference * Area * Surface area   volume  **GLET:**  Understand how the ratio of side lengths of two similar figure compare to the ratio of the areas of the two figures  **Objective:**  (discover how the area changes with similar figures) |
| **Content Objective** | I will demonstrate current knowledge of proportions, similarity, and Pythagorean Theorem by setting up and solving equations. | I will identify if polygons are similar by verifying corresponding angles are congruent and setting up and reducing proportions. | I will find missing side lengths in similar polygons by setting up solving proportions | I will determine if two triangles are similar by using one or more of these theorems:  Angle-Angle Similarity postulate (AA~)  Side-Angle-Side Similarity Theorem(SAS~)  Side-Side-Side Similarity Theorem (SSS~) | I will use properties of similar triangles to solve problems that involve indirect measurements (heights of tall objects, elevations, etc.) |
| **Assessment** | This is a pre-assessment that becomes formative as students self check their work. |  |  |  |  |
| **Summary of Content Addressed** | Students are introduced to concept of similarity, and the mathematical relationships that exist between similar figures. Students reminded of cross-multiplication method for solving proportions. | Prentice Hall lesson 7.2:  Use real-world examples wherever possible. Students introduced to appropriate symbols and notation to describe congruence and similarity, as well as an “extended proportion. | Prentice Hall Lesson 7.3 | Exercises taken from Prentice Hall text with emphasis on setting up and solving real-world problems. Classroom activities will include exploration using reflections (mirror Activity) and/or shadows (outside). | Exploration/data collection activities.  Activity 1. Use similar triangles from shadows.  Activity 2 Use mirror on the floor |
| **Key Vocabulary and Lit Terms** | Ratio, proportion, scale factor, corresponding parts. | Similar Polygons: Two or more polygons are similar if all of the angles in one polygon are congruent to the corresponding angles in the other polygon, and the all of the sides from one figure are proportional to the corresponding sides in another polygon. |  | Angle-Angle postulate (AA)  Side-Side-Side Theorem (SSS)  Side-Angle-Side Theorem SAS) |  |
| **Warm-Up** |  | Given 2 similar figures name corresponding sides and angles. | Determine if 2 polygons are similar by comparing corresponding angles and by setting up ratios of corresponding sides and reducing to lowest terms | Given 2 similar triangles Set up and solve a proportion to find the missing side. |  |
| **“I Do”** | (**On this day the sequence of I-do, We-do, You-do is changed to allow for a pretest of prior knowledge)**  **You-do:**  Students given the pre-test at the beginning of class. Students are given 25 minutes to complete the pre-test. | Introduce vocabulary: **Similar polygons**  Review definitions of ratio and proportion.  Provide notes on procedure for determining similarity.  Use sample problems from teachers notes. Provide non-examples. | Essential question: “What if we know two polygons are similar but there is one or more dimensions missing?”  Demonstrate procedure, setting up and solving proportions.  See teachers notes for sample problems. | Essential question: “Are there any ‘shortcuts’ that make determining similarity easier?”  Provide definitions for Angle-Angle Similarity (review third-angle conjecture if necessary),  Side-Angle-Side Similarity, Side-Side-Side Similarity.  See teachers notes. | Essential question: “How can we use triangle similarity in the real-world?”  Discuss examples of where similar triangles can be found. (example: shadow of a flag pole and shadow of a person standing next to flag pole. |
| **“We Do”** | **I-do:**  Display answers for students to check their work. Demonstrate cross-multiplication method for solving proportions, write definitions for ratio, proportion, scale factor. | See teachers notes for sample problems. | See teachers notes for sample problems. | See teachers notes for sample problems. | Write a plan.  Draw a sketch.  Decide what measurements can be taken and what needs to calculated.  Set up a proportion.  Solve, justify the final answer. Is it reasonable? |
| **“You Do”** | **We-do:**  Students will take notes while they self check their answers. Students will write definitions for ratio and proportion. | “You-do” exercises are in the student handbook. See Prentice Hall text for extensions and remediations, Lessons 7.1-7.3 | “You-do” exercises are in the student handbook. See Prentice Hall text for extensions and remediations, Lessons 7.1-7.3 | “You-do” exercises are in the student handbook. See Prentice Hall text for extensions and remediations, Lessons 7.1-7.3 | Collect data. (additional plans will be provided as availability of materials and supplies are determined). |
| **Resources** | Pre-assessment/re-teach proportions worksheet. |  |  |  |  |